

Application number 10/037,861
Amendment dated February 6, 2006
Reply to office action of August 4, 2005

PATENT

REMARKS/ARGUMENTS

Claims 14-56 will be pending in this application after entry of this amendment. Claims 22 and 25 have been amended to correct typographical oversights. New claims 34-56 have been added. Support for the new claims can be found in the specification. No new matter has been added.

Claims 14 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashimoto, United States patent number 6,351,166, in view of Coddington et al., United States patent number 6,140,854 (Coddington). Claim 30 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Coddington in view of Takahashi, United States patent 6,346,843. The dependent claims stand rejected on these and similar grounds. Reconsideration of these rejections and allowance of the pending claims in light of these amendments and remarks is respectfully requested.

Claim 14

Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashimoto in view of Coddington. But these references do not teach each and every element of this claim. For example, claim 14 recites “a phase detector having a first input coupled to an input of the series of circuits and a second input coupled to an output of the series of circuits.” The cited references do not provide this limitation.

The pending office action states that Figure 8 of Hashimoto shows or suggests this feature. (See pending office action, page 3, lines 3 and 4.) But the phase-comparison circuit 16 in Hashimoto does not have a first input coupled to an input of the series of circuits comprising a frequency divider and variable-delay block as required by the claim.

Specifically, the phase comparison circuit 16 in Figure 8 of Hashimoto has two inputs, one connected to an output of a frequency divider 15 and a second connected to an output of a variable delay circuit 18 (via dummy circuits 20, 21, and 19, and ESD 22.). Accordingly, one input of the phase comparison circuit 16 in Figure 8 of Hashimoto is connected to an output of a series of circuits including the frequency divider 15 and variable-delay circuit 18, while the other input is connected to an intermediate output of this series of circuits. Thus, the phase-

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comparison circuit 16 in Hashimoto does not have a first input coupled to an input of the series of circuits as required by the claim.

For at least this reason, claim 14 should be allowed.

Claim 19

Claim 19 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashimoto in light of Coddington. But these references do not teach each and every element of this claim. For example, claim 19 recites “a series combination of a first frequency divider and a first variable-delay block, configured to receive a first clock signal [and] a phase detector configured to receive the first clock signal and an output from the series combination.” The cited references do not provide this.

The pending office action states that Figure 8 of Hashimoto shows or suggests these features. (See pending office action, page 4, lines 8 and 9.) But the phase-comparison circuit 16 and the series combination of the frequency divider 15 and variable delay circuit 18 in Hashimoto do not both receive a first clock signal as required by the claim.

As discussed above in regards to claim 14, the phase comparison circuit 16 in Figure 8 of Hashimoto has an input connected to an output of a frequency divider 15. Accordingly, this input of the phase comparison circuit 16 in Figure 8 of Hashimoto is connected to an intermediate output of this series of circuits. Thus, the phase-comparison circuit 16 and the frequency divider 15 in Hashimoto are not configured to receive a first clock signal as required by the claim.

For at least this reason, claim 19 should be allowed.

Other claims

Claims 15-18 depend on claim 14 and should be allowed for the same reasons as claim 14 and for the additional limitations they recite. Claims 20-29 depend on claim 19 and should be allowed for the same reasons as claim 19 and for the additional limitations they recite. Claim 30 should be allowed for similar reasons as claims 14 and 19. Specifically, claim 30 recites “phase detector means for receiving the first and second clock signals, and providing an

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output." The cited references do not provide this feature. Claims 31-33 depend on claim 30 and should be allowed for the same reasons as claim 30 and for the additional limitations they recite.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this application are in condition for allowance. The issuance of a formal notice of allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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Attachments

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